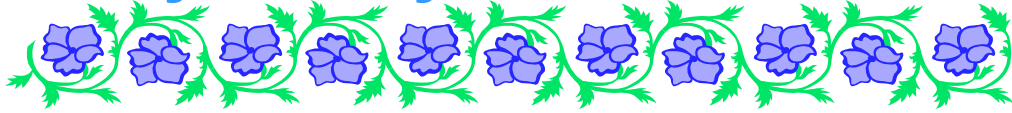


Family History and Your Health



Family Health History and Osteoporosis

Osteoporosis (porous bones) is a disease involving low bone mass and a breakdown of bone tissue. The bone becomes weak and is more prone to fractures, especially of the wrist, hip and spine. Like many other chronic conditions, osteoporosis tends to run in families. About 10 million Americans are diagnosed with osteoporosis and another 34 million are considered at risk.

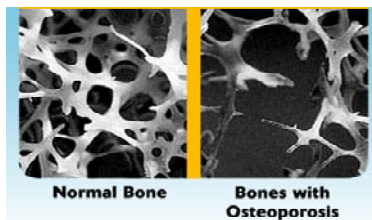


Image courtesy of 2004 Surgeon General's Report on Bone Health and Osteoporosis.

Here's what we know about family health history:

- ◆ Approximately 45% of women and 30% of men with osteoporosis have a family history of the condition.
- ◆ A daughter has two times the risk of a hip fracture if her mother has had a hip fracture.
- ◆ About 33% of mothers and 5% of fathers of affected women have osteoporosis.
- ◆ A sibling of someone with osteoporosis is six times more likely to have low bone mass.

Look for these "red flags" in your family:

- ◆ Family history of fractures
- ◆ Broken bones from a minor fall or injury after age 35
- ◆ Adults with low body weight (under 127 pounds)

Did you Know?

Osteoporosis is less common in men than women. Because men's bones are longer and stronger, bone loss generally starts later in life and happens more slowly. However, there are about 2 million men in the United States that have been diagnosed with the condition. Up to one third of hip fractures occur in men. Risk factors for osteoporosis in men are generally the same as those for women and include:

- ✓ Family history of osteoporosis or fractures
- ✓ Low testosterone levels
- ✓ Smoking
- ✓ Inactivity
- ✓ Age
- ✓ Prolonged exposure to certain medications

For more information go to
www.nof.org/men/index.htm

Where does Michigan Stand?

It is estimated that **1 in 3 Michigan residents are affected with either osteoporosis or low bone mass** (National Osteoporosis Foundation). In 2005, it was estimated that about **40,000 people in Michigan would have an osteoporosis related fracture costing approximately \$440 million dollars.** By 2025, it is believed **50,000 people will have osteoporosis related fractures at a cost of over \$510 million dollars.**

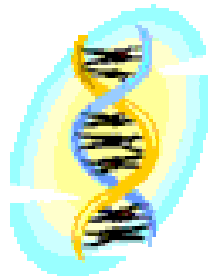


For more information, please contact the Public Health Genomics Program by e-mail: genetics@michigan.gov or call toll-free: 1-866-852-1247

What Do We Know About Genetics and Osteoporosis?

The childhood to early adult years are a time when the body's skeleton is growing - becoming longer, denser and stronger. Peak bone mass is the maximum amount of bone mass a person can reach in their lifetime. Peak bone mass is reached between the ages of 18-25, which means what happens in childhood (diet and exercise) is vital to maximum bone growth and density. It is thought that approximately 75% of bone mass is genetic. The other 25% is determined by environmental factors such as diet and exercise. (National Institute of Health Osteoporosis and Related Bone Diseases)

Because there are so many factors involved in osteoporosis, it is difficult to pinpoint particular genes. Currently, about 20 different genes have been identified as playing a role in bone density. Various genetic changes, or mutations, have been found that affect the cells that build bone. Mutations have also been found affecting cells that break down bone.



Health is a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity.
-World Health Organization, 1948



On the Web...

Partnership for Better Bones

www.Michiganosteoporosisconnection.org/

National Osteoporosis Foundation

www.nof.org

National Institutes of Health Osteoporosis and Related Bone Disease - National Resource Center

www.osteoporosis.nih.gov

What Can You Do?

Know your family health history -

If you have a family history of osteoporosis or fractures, discuss screening and prevention options with your health provider.

Choose foods rich in calcium -

Calcium is essential for healthy bones.

If a body doesn't get enough calcium through diet or supplements, it will take that calcium from the bones causing osteoporosis. The amount of calcium a person needs depends on their age. **Children age 9-18 need 1,300 milligrams of calcium a day to promote healthy bone growth. Adults age 18-50 need 1,000 milligrams a day to maintain healthy bones. If you are over 50 the recommended amount is 1,200 milligrams of calcium a day.** Calcium is found in foods like milk, cheese, yogurt, and leafy vegetables. If you are concerned about getting enough calcium in your diet discuss your options with your health care provider.

Get enough vitamin D - Vitamin D is needed for the body to absorb calcium. Vitamin D is obtained in two ways: by exposure to sunlight (approximately 15 minutes a day) and in foods such as egg yolks, liver and fortified foods like milk, cereals and some breads.

Be physically active - Reduce your risk by getting the 30 minutes of recommended physical activity each day. This will help maintain bone mass, improve strength, balance, and coordination as well as reduce the risk for many other chronic conditions. Weight bearing exercises such as walking, jogging, climbing stairs, dancing and weight lifting are examples of exercises that are good for your bones.

Be tobacco-free - According to the National Osteoporosis Foundation, women who smoke have lower levels of estrogen and go through menopause earlier, putting them at greater risk of osteoporosis.

Reduce your risk of falls - Preventing falls can help prevent fractures. Go to www.nof.org/patientinfo/fall_prevention.htm to learn more about preventing falls.

A Note For Parents

Even though 75% of peak bone mass may be genetically determined, osteoporosis is a condition that is **preventable**. It is often called a "childhood disease with adult onset" because the nutrition and lifestyle habits someone has as a child will affect their risk when they get older. To prevent this condition in your child, teach good nutrition and lifestyle habits, such as those listed above. You will not only be helping to prevent osteoporosis but many other conditions that can affect your child's quality of life in the future!

